

Remarks/Arguments

New Claims

Applicant has provided new method claims 8-22. Support for the new claims is found in the specification and drawings, for example, paragraphs [0005], [0007]-[0010], and [0014]-[0018] and Figures 2 and 3. No new matter has been added.

The Rejection of Claim 1-7 Under 35 U.S.C. §101

The Examiner rejected Claims 1-7 under 35 U.S.C. §101 because the claimed invention is not supported by a well asserted utility or a well established utility.

Applicant has cancelled original claims 1-7, therefore, the rejection of claims 1-7 is moot. Applicant has provided new method claims 8-22. The new method claims clearly recite steps to carry out the present invention method of shifting a twin-clutch transmission.

Applicant respectfully submits that these amendments overcome the rejection under 35 U.S.C. §101, and reconsideration is requested.

Rejection of Claims 1-7 under 35 U.S.C. § 112 first paragraph

The Examiner rejected Claims 1-7 under 35 U.S.C. 112, first paragraph, for lacking method steps to carry out the claimed invention.

Applicant has cancelled original claims 1-7, therefore, the rejection of claims 1-7 is moot. New method claims 8-22 clearly recite steps to carry out the present invention method of shifting a twin-clutch transmission.

Applicant respectfully submits that these amendments overcome the rejection under 35 U.S.C. §112, first paragraph and reconsideration is requested.

The Rejection of Claims 1-7 Under 35 U.S.C. §112

The Examiner rejected Claims 1-7, under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention.

Applicant has cancelled original claims 1-7, therefore, the rejection of claims 1-7 is moot. New method claims 8-22 clearly recite steps to carry out the present invention method of shifting a twin-clutch transmission. The new method claims clearly recite the subject matter Applicant regards as the invention.

Applicant respectfully submits that these amendments overcome the rejection under 35 U.S.C. §112, second paragraph and reconsideration is requested.

The Rejection of Claims 1-7 Under 35 U.S.C. §102(b)

The Examiner rejected Claims 1-7 under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 5,915,512 (Adamis et al).

Applicant has cancelled original claims 1-7, therefore, the rejection of claims 1-7 is moot. Applicant respectfully submits that new method claims 8-22 are novel with respect to Adamis.

Anticipation requires that all of the elements of the claim be taught within the four corners of a single reference.

New Claim 8

The invention recited in claim 8 and Adamis are addressing fundamentally different problems. Adamis is concerned with providing fill-in torque for a “skip shift.” Adamis teaches the manipulation of clutches and transmission shaft speeds to accomplish the torque filling. Claim 8 addresses the manipulation of engine torque to generate an engine torque associated with a target gear, before the “normal” operation of the engine and transmission would result in the engine torque.

Adamis does not detect an incorrectly pre-selected target gear

Claim 8 recites: “detecting an incorrectly pre-selected target gear;” Adamis is silent regarding the preceding limitation of Claim 8. In fact, this limitation is not applicable to Adamis – it is not relevant to the problem being solved or the solution proposed.

Adamis does not calculate a maximum output torque (M_{Red})

Claim 8 recites: “calculating a maximum output torque (M_{Red}) for an engine in said vehicle, said M_{Red} associated with operation of said transmission in a correct target gear;”

Adamis does not calculate engine torque for a target gear. Adamis has only passing references to engine torque. For example, col. 5, lines 66 and 67 state that the engine is applying positive torque to the transmission. In multiple locations, references to incidental changes in engine speed are made, for example, col. 7, lines 35 and 48. Instead, Adamis focuses on manipulating clutches to control transmission shaft speeds in order to provide fill-in torque. Adamis is essentially treating the engine torque as a given parameter and then manipulating clutches and shafts in light of the given engine torque. That is, Adamis is silent regarding a quantification of the current engine output torque. Adamis has no teachings regarding the measurement and comparison of the engine output torque.

Adamis does not reduce a current output torque (M_{Motor}) for said engine to equal said M_{Red}

Claim 8 recites: “reducing a current output torque (M_{Motor}) for said engine to equal said M_{Red} .” Again, Adamis does not teach controlling engine torque. Adamis teaches manipulating engine torque through the application of clutches connected to transmission shafts. In fact, reducing engine torque could be contrary to Adamis’ goal of providing fill-in torque for a skip shift.

For all the reasons noted above, Claim 8 is novel with respect to Adamis. Claims 9-18, dependent from Claim 8, enjoy the same distinction with respect to Adamis.

New Claim 19

Claim 19 recites: “calculating a torque M_{Red} for said engine, said M_{Red} associated with operation of said transmission in said higher gear;” This limitation is similar to the Claim 8 limitation: “calculating a maximum output torque (M_{Red}) for an engine in said vehicle, said M_{Red} associated with operation of said transmission in a correct target gear;” Therefore, the arguments for Claim 8 are applicable to this element of Claim 19.

Claim 19 recites: “reducing said M_{Motor} to equal said M_{Red} , prior to engaging said higher gear.” This limitation is similar to the Claim 8 limitation: ““reducing a current output torque (M_{Motor}) for said engine to equal said M_{Red} .” Therefore, the arguments for Claim 8 are applicable to this element of Claim 19.

For all the reasons noted above, Claim 19 is novel with respect to Adamis. Claims 20-22, dependent from Claim 19, enjoy the same distinction with respect to Adamis.

Conclusion

Applicant respectfully submits that all pending claims are now in condition for allowance, which action is courteously requested.

Respectfully submitted,



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Dated: June 13, 2006